Title (en)

DETERMINING SUNLIGHT EFFECT ON WIND TURBINE TOWER INCLINATION USING TOWER TOP ACCELEROMETERS

Title (de)

BESTIMMUNG DES SONNENLICHTEFFEKTS AUF DER WINDTURBINENTURMNEIGUNG UNTER VERWENDUNG VON TURMOBERBESCHLEUNIGUNGSMESSERN

Title (fr)

DÉTERMINATION DE L'EFFET DE LA LUMIÈRE DU SOLEIL SUR L'INCLINAISON D'UNE TOUR D'ÉOLIENNE À L'AIDE D'ACCÉLÉROMÈTRES DE TÊTE DE TOUR

Publication

EP 4179201 B1 20240124 (EN)

Application

EP 21735148 A 20210611

Priority

- DK PA202070469 A 20200708
- DK 2021050187 W 20210611

Abstract (en)

[origin: WO2022008014A1] Systems, methods, and computer program products for determining an inclination of a wind turbine tower (12) based on acceleration measurements by an accelerometer (50) operatively coupled to a nacelle (14) of the wind turbine (10). Acceleration data is collected from the accelerometer (50), which is configured to sense acceleration along an accelerometer axis (x, y, z) while the nacelle (14) is in each of a plurality of yaw positions. The nacelle (14) is rotated in steps to each yaw position and stopped for a period of time. While the nacelle (14) is stopped, acceleration data is collected, and a static level of acceleration determined along the accelerometer axis (x, y, z) due to gravity (28). Once acceleration data has been collected at each of the positions, the minimum and maximum acceleration levels are identified. The inclination of the tower (12) is then determined based on the minimum and maximum acceleration levels.

IPC 8 full level

F03D 13/20 (2016.01); **F03D 17/00** (2016.01)

CPC (source: EP US)

F03D 7/042 (2013.01 - US); **F03D 13/20** (2016.05 - EP); **F03D 17/00** (2016.05 - EP US); F05B 2260/80 (2013.01 - EP US); F05B 2270/309 (2013.01 - EP US); F05B 2270/329 (2013.01 - EP US); F05B 2270/807 (2013.01 - EP US); Y02E 10/72 (2013.01 - EP); Y02E 10/728 (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2022008014 A1 20220113; CN 116018458 A 20230425; EP 4179201 A1 20230517; EP 4179201 B1 20240124; EP 4179201 C0 20240124; ES 2970838 T3 20240530; US 2023349363 A1 20231102

DOCDB simple family (application)

DK 2021050187 W 20210611; CN 202180054770 A 20210611; EP 21735148 A 20210611; ES 21735148 T 20210611; US 202118004866 A 20210611